



DECLARATION OF YASUMICHI HITOSHI UNDER 37 C.F.R. §1.131	Application Number	09/843,159
	Confirmation Number	8575
	Filing Date	April 25, 2001
	First Named Inventor	Ying Luo
	Examiner	Manjunath Rao
	Group Art	1652
	Attorney Docket No.	RIGL-010CIP2

This Declaration with the attached Exhibits are being submitted in conjunction with the Applicants' Response to the Office Action dated May 26, 2004.

I, Yasumich Hitoshi, M.D. Ph.D., do hereby declare as follows.

1. I am currently a program director at Rigel Pharmaceuticals, Inc. (hereinafter "Rigel"), and the work described in the above-referenced patent application was performed with my knowledge.
2. I understand that the claimed subject matter of the above-referenced patent application relates to assays for identifying agents that modulate the poly(A) ribose polymerase activity of Tankyrase H.
3. I have been asked to provide factual evidence relating to the activities of Rigel and Rigel's patent counsel with respect to the claimed subject matter, prior to October 25, 1999 (the filing date of the above-referenced patent application).

4. I have reviewed the Exhibits attached hereto and they all relate to the activities of Rigel or Rigel's patent counsel with respect the claimed subject matter, prior to October 25, 1999.
5. Prior to June 11, 1999, the inventors of the above-referenced patent application identified the sequence of the ADP-ribose polymerase domain of Tankyrase H and identified that Tankyrase H had poly(A) ribose polymerase activity. Evidence for this is provided in Exhibit A. All redacted dates are prior to June 11, 1999.
6. Further, between June 11, 1999, and July 21 1999, the inventors worked towards identifying the full length sequence of Tankyrase H for use in the above-referenced screening assays. Evidence for this is provided in Exhibits B and C. The dates have not been redacted in these exhibits.
7. Finally, between July 20, 1999 and October 25, 1999, the above-referenced patent application was drafted at the law firm of Flehr, Hobach, Test, Albritton and Herbert (hereinafter "Flehr"), the law firm contracted to draft the above-referenced patent application. Evidence for this is provided in Exhibits D – H. The dates have not been redacted in these exhibits.
8. Exhibit A consists of a print-out of Tankyrase H amino acid and nucleic acid sequences. On pages, 2, 6 and 7 of this Exhibit, Tankyrase H is identified as having a poly(A) ribose polymerase domain. The date of the print-out was prior to June 11, 1999.
9. Exhibit B consists of a presentation that was made by Xiang Xu, an inventor, that identifies Tankyrase H as having poly(A) ribose polymerase activity on page 3. The date of this presentation was June 15, 1999.
10. Exhibit C consists of signed laboratory notebook pages from Simon Yu, a colleague at Rigel Pharmaceuticals, Inc. These notebook pages show results of experiments directed towards identifying the full length sequence of Tankyrase H for use in the above-


referenced screening assays. The notebook pages are dated July 9, July 13, July 15, July 16 and July 21, 1999, respectively.

11. Exhibit D consists of a letter from Nicole Verona of Rigel to Ms. Robin Silva of Flehr), the law firm contracted to draft the above-referenced patent application. The letter references an invention disclosure (i.e., eight packages of information) for use in preparation of the above-referenced patent application. The date of the letter is July 20, 1999.
12. Exhibit E consists of a letter from Nicole Verona of Rigel to Ms. Robin Silva of Flehr. The letter references diskettes for use in preparation of the above-referenced patent application. The date of the letter is July 22, 1999.
13. Exhibit F consists of a file information page from Flehr, indicating that the file for the above-referenced patent application was opened on July 26, 2003.
14. Exhibit G consists of an e-mail dated August 30, 1999, from Nicole Verona of Rigel to Ms. Dolly Vance of Flehr regarding questions about the above referenced invention disclosure. The body of this e-mail contains text of previous e-mails dated August 20, 1999 and August 26, 1999, also relating to the above referenced invention disclosure.
15. Exhibit H consists of a letter from Nicole Verona of Rigel to Ms. Dolly Vance regarding further documents for use in drafting the above-referenced patent application. The date of the letter is September 30, 1999.
16. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18

of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Respectfully submitted,

Date: 9/3/04


Yasumichi Hitoshi, M.D. Ph.D.,

Attachments: Exhibits A - G



final

Exhibit A 09/843,159

in xxu common

Seqn fold from 1/19

Longest ORF frame 1 of 1060 amino acids
From amino acid position 84 to 1143

1 MVQTPMLEIIGIILLSMKLQLKERLMFALCCYFAVLLQHGAEPTILNTDGR TALDLADPS
61 AKAVLTGEYKKDELLESARSGNEEKMMALLTPLNVNCHASDGRKSTPLHLAAGYNRVKIV
121 QLLLQHGADVHAKDKGDLVPLHNACSYGHYEVTPELLVKHGACVNAMDLWQFTPLHEAASK
181 NRVEVCSLLLSYGADPTLLNCHNKS AIDLAPTQLKERLAYEFKGHSLQAAREADVTRI
241 KKHLSLEMVNFKHPQTHETALHCAAASPYPKRKQICELLRLKGANINEKTKEFLTPLHVA
301 SEKAHNDVVEVVVKHEAKVNALDNLGQTS LHRAAYCGHLQTCRLLLSYGCDPNIIISLQGF
361 TALQMGNNENVQQLQEGISLGNSEADRQLLEAAKAGDVETVKKLCTVQSVNCRDIEGRQS
421 TPLHFAAGYNRVSVVEYLLQHGADVHAKDKGLVPLHNACSYGHYEVAELLVKHGAVVNV
481 ADLWKFTPLHEAAAKGKYEICLLLLQHGADPTKKNRDGNTPLDLVKDGDTDIHYLLRGDA
541 ALLDAAKKGCLARVKKLSSPDNVNCRDTQGRHSTPLHLAAGYNNLEVAEYLLQHGADVNA
601 QDKGGLIPLHNAASYGHVDVAALLIKYNACVNATDKWAFTPLHEAAQKGR TQLCALLLAH
661 GADPTLKNQEGQTPLDLVSADDVSALLTAAMPSPALPSCYKPQVLNGVRS PGATADALSS
721 GPSSPSSLSAASSLDNLSGSFSELSSLVSSSGTEGASSLEKKEVPGVDFSITQFVRNLGL
781 EHLMDIFEREQITLDVLVEMGHKELKEIGINAYGHRHKLKIGVERLISGQQGLNPYLT LN
841 TSGSGTILIDLSPDDKEFQSV EEEQMSTVREHRDGGHAGGIFNRYNILKIQKVCNKKLWE
901 RYTHRRKEVSEENHNHANERMLFHGSPFVNAI IHKGFDERHAYIGMFGAGIYFAENSSK
961 SNQYVYGIGGGTGC PVHKDRSCYICHRQLLFCRVTLGKSFLQFSAMKMAHSPPGHHSVTG
1021 RPSVNGLALAEYVIYRGEQAYPEYLITYQIMRPEGMVDGZ

1 GAAGTGCAGCGGGGTGGATTTCTCTGGAATTGCCTTAGTAGTAGTACCACCCAAGGCACTG
61 CTTAGGTACCCTGCTGCTTAGTGGAGAGTCCCTCTGGCTTTATCATTAAAGGTTTGGGC
121 GGAAAGACGTAGTTGAATATTTGCTTCAGAATGGTGCAAATGTCCAAGCACGTGATGATG
181 GGGGCCCTTATTCCTCTTCATAATGCATGCTCTTTTGGTCATGCTGAAGTAGTCAATCTCC
241 TTTTGGCAGATGGTGCAAGCCCAATGCTCGAGATAATTGGAATTATACTCCTCTCCATG
301 AAGCTGCAATTAAAGGAAAGATTGATGTTTGCATTGTGTGCTATTTTGCAGTGCTGTTA
361 CAGCATGGAGCTGAGCCAACCATCTAAATACAGATGGAAGGACAGCATTTGGATTTAGCA
421 GATCCATCTGCCAAAGCAGTGCTTACTGGTGAATATAAGAAAGATGAACCTTTAGAAAGT
481 GCCAGGAGTGGCAATGAAGAAAAAATGATGGCTCTACTCACACCATTAAATGTCAACTGC
541 CACGCAAGTGATGGCAGAAAGTCAACTCCATTACATTTGGCAGCAGGATATAACAGAGTA
601 AAGATTGTACAGCTGTTACTGCAACATGGAGCTGATGTCCATGCTAAAGATAAAGGTGAT
661 CTGGTACCATTACACAATGCCGTGTTCTTATGGTCAATTATGAAGTAACTGAACTTTGGTC
721 AAGCATGGTGCTGTGTAATGCAATGGACTTGTGGCAATTCACCTCCTTTCATGAGGCA
781 GCTTCTAAGAACAGGGTTGAAGTATGTTCTCTTCTCTTAAGTTATGGTGCAGACCCAACA
841 CTGCTCAATTGTCAATAAAAGTGCTATAGACTTGGCTCCCAACACACAGTTAAAGAA
901 AGATTAGCATATGAATTTAAAGGCCACTCGTTGCTGCAAGCTGCACGAGAAGCTGATGTT
961 ACTCGAATCAAAAAACATCTCTCTGGAATGGTGAATTTCAAGCATCCTCAACACAT
1021 GAAACAGCATTGCAATTGTGCTGCTGCATCTCCATATCCCAAAGAAAGCAAATATGTGAA
1081 CTGTTGCTAAGAAAAGGAGCAAACATCAATGAAAAGACTAAAGAATTCTTGACTCCTCTG
1141 CACGTGGCATCTGAGAAAAGCTCATAATGATGTTGTTGAAGTAGTGGTGAAACATGAAGCA
1201 AAGGTTAATGCTCTGGATAATCTTGGTCAGACTTCTCTACACAGAGCTGCATATTGTGGT
1261 CATCTACAAACCTGCCGCTACTCCTGAGCTATGGGTGTGATCCTAACATTATATCCCTT
1321 CAGGGCTTTACTGCTTTACAGATGGGAAATGAAAATGTACAGCAACTCCTCCAAGAGGGT
1381 ATCTCATTAGGTAATTCAGAGGCAGACAGACAATTGCTGGAAGCTGCAAAGGCTGGAGAT
1441 GTCGAAACTGTAAAAAACTGTGTACTGTTCAAGAGTGCTCAACTGCAGAGACATTGAAGGG
1501 CGTCAGTCTACACCACTTCATTTTGCAGCTGGGTATAACAGAGTGTCCTGGTGGAATAT
1561 CTGCTACAGCATGGAGCTGATGTGCATGCTAAAGATAAAGGAGGCTTGTACCTTTGCAC
1621 AATGCATGTTCTTATGGACATTATGAAGTTGCAGAACTTCTTGTAAACATGGAGCAGTA
1681 GTTAATGTAGCTGATTTATGGAAATTTACACCTTTACATGAAGCAGCAGCAAAAGGAAAA
1741 TATGAAATTTGCAAACCTCTGCTCCAGCATGGTGCAGACCTTACCAAAAAAACAGGGAT
1801 GGAAATACTCCTTTGGATCTTGTAAAGATGGAGATACAGATATTCAATTATCTGCTTAGG
1861 GGAGATGCAGCTTTGCTAGATGCTGCCAAGAAGGGTTGTTTAGCCAGAGTGAAGAAGTTG
1921 TCTTCTCTGATAATGTAAATTGCCGCGATACCCAAGGCAGACATTCAACACCTTTACAT

1981 TTAGCAGCTGGTTATAATAATTTAGAAAGTTGCAGAGTATTTGTTACAACACGGAGCTGAT
 2041 GTGAATGCCCAAGACAAAGGAGGACTTATTCCTTTACATAATGCAGCATCTTACGGGCAT
 2101 GTAGATGTAGCAGCTCTACTAATAAAGTATAATGCATGTGTCAATGCCACGGACAAATGG
 2161 GCTTTTCACACCTTTTGCACGAAGCAGCCAAAAGGGACGAACACAGCTTTGTGCTTTGTTG
 2221 CTAGCCCATGGAGCTGACCCGACTCTTAAAAAATCAGGAAGGACAAACACCTTTAGATTTA
 2281 GTTTCAGCGGATGATGTCAGCGCTCTTCTGACAGCAGCCATGCCCCATCTGCTCTGCCC
 2341 TCTTGTTACAAGCCTCAAGTGCTCAATGGTGTGAGAAGCCCAGGAGCCACTGCAGATGCT
 2401 CTCTCTTCAGGTCCATCTAGCCCATCAAGCCTTTCTGCAGCCAGCAGTCTTGACAACTTA
 2461 TCTGGGAGTTTTTCAGAACTGTCTTCATTAGTTAGTTCAAGTGGAACAGAGGGTGCTTCC
 2521 AGTTTGGAGAAAAAGGAGGTTCCAGGAGTAGATTTTAGCATAACTCAATTCGTAAGGAAT
 2581 CTTGGACTTGAGCACCTAATGGATATATTTGAGAGAGAACAGATCACTTTGGATGTATTA
 2641 GTTGAGATGGGGCACAAGGAGCTGAAGGAGATTGGAATCAATGCTTATGGACATAGGCAC
 2701 AAATAAATTAAGGAGTCGAGAGACTTATCTCCGGACAACAAGGCTTTAACCCATATTTA
 2761 ACTTTGAACACCTCTGGTAGTGGAACAAATCTTATAGATCTGTCTCCTGATGATAAAGAG
 2821 TTTCAGTCTGTGGAGGAAGAGATGCAAAGTACAGTTTCGAGAGCACAGAGATGGAGGTCAT
 2881 GCAGGTGGAATCTTCAACAGATACAATATTTCTCAAGATTTCAGAAGGTTTGTAAACAAGAA
 2941 CTATGGGAAAGATACTCACCAGGAGAAAAAGGTTTCTGAAGAAAACCACAACCATGCC
 3001 AATGAACGAATGCTATTTTCATGGGTCTCCTTTTGTGAATGCAATTATCCACAAAGGCTTT
 3061 GATGAAAGGCATGCCGTACATAGGTGGTATGTTTGGAGCTGGCATTATTTTGTGAAAAC
 3121 TCTTCCAAAAGCAATCAATATGTATATGGAATTGGAGGAGGTACTGGGTGTCCAGTTTAC
 3181 AAAGACAGATCTTGTACATTTGCCACAGGCAGCTGCTCTTTTGGCCGGGTAACCTTGGA
 3241 AAGTCTTTCTCGAGTTCAGTGCAATGAAAATGGCACATTCTCTCCAGGTCATCACTCA
 3301 GTCAGTGGTAGGCCAGTGTAAATGGCCTAGCATTAGCTGAATATGTTATTTACAGAGGA
 3361 GAACAGGCTTATCTTGAGTATTTAATTACTTACCAGATTATGAGGCCTGAAGGTATGGTC
 3421 GATGGATAAATAGTTATTTTAAGAACTAATTCCTGAACTTAAATCATCAAAGCAGC
 3481 AGTGGCCTCTACGTTTTTACTCCTTTTGCTGAAAAAAAAAAAA

ref|NP_003738.1|PTNKS| TANKYRASE >gi|3929219 (AF082556) TRF1-interacting
 ankyrin-related

ADP-ribose polymerase [Homo sapiens] Length = 1327
 Score = 1640 bits (4199), Expect = 0.0
 Identities = 790/1023 (77%), Positives = 871/1023 (84%), Gaps = 11/1023 (1%)
 Query: 35 VLLQHGAEPITLNTDGRALDLADPSAKAVLTGEYKKDELLESARSGNEEKMMALLTPLN 94
 VLLQHGA+P I NTDG++ALDLADPSAKAVLTGEYKKDELLE+ARSGNEEK+MALLTPLN
 Sbjct: 300 VLLQHGAADPNIRNTDGRKALDLADPSAKAVLTGEYKKDELLEAARSGNEEKLMMALLTPLN 359
 Query: 95 VNCHASDGRKSTPLHLAAGYNRVKIVQLLLQHGAADVHAKDKGDLVPLHNACSYGHYEVTE 154
 VNCHASDGRKSTPLHLAAGYNRV+IVQLLLQHGAADVHAKDKG LVPLHNACSYGHYEVTE
 Sbjct: 360 VNCHASDGRKSTPLHLAAGYNRVRIQLLLQHGAADVHAKDKGGLVPLHNACSYGHYEVTE 419
 Query: 155 LLVKHGACVNAMDLWQFTPLHEAASKNRVEVCSLLLSYGADPTLLNCHNKSALDLAPTPQ 214
 LL+KHGACVNAMDLWQFTPLHEAASKNRVEVCSLLLS+GADPTL+NCH KSA+D+AFTP+
 Sbjct: 420 LLLKHGACVNAMDLWQFTPLHEAASKNRVEVCSLLLSHGADPTLVNCHGKSAVDMAPTPE 479
 Query: 215 LKERLAYEFKGHSLQAAREADVTRIKKHLSEMVNFKHPQTHETALHCAAASPYPKRKQ 274
 L+ERL YEFKGHSLQAAREAD+ ++KK L+LE++NFK PQ+HETALHCA AS +PKRKQ
 Sbjct: 480 LRERLTYEFKGHSLQAAREADLAKVKKTLALEIINFKQPQSHETALHCAVASLHPKRKQ 539
 Query: 275 ICELLLRKGANINEKTKEFLTPLHVASXXXXXXXXXXXXXXXXXXXXXLDNLGQTSLHRAA 334
 + ELLLRKGAN+NEK K+F+TPLHVA+ LD LGQT+LHRAA
 Sbjct: 540 VTELLLRKGANVNEKNKDFMTPLHVAAERAHNDVMEVLHKHGAKMNALDTLGQTLHRAA 599
 Query: 335 YCGHLQTCRLLLSYGCDPNIISLQGFTALQMGNEENVQQLLQEGISLGNSEADRQLLEAAK 394
 GHLQTCRLLLSYG DP+IISLQGFTA QMGNE VQQ+L E + S+ D +LLEA+K
 Sbjct: 600 LAGHLQTCRLLLSYGSDPSIISLQGFTAAQMGNEAVQQILSESTPIRTSDVDYRLEASK 659

121 GCCAAAGCAGTGCCTTACTGGTGAATATAAGAAAGATGAACCTTTAGAAAGTGCCAGGAGT
181 GGCAATGAAGAAAAAATGATGGCTCTACTCACACCATTAAATGTCAACTGCCACGCAAGT
241 GATGGCAGAAAAGTCAACCTCATTACATTTGGCAGCAGGATATAACAGAGTAAAGATTGTA
301 CAGCTGTTACTGCAACATGGAGCTGATGTCCATGCTAAAGATAAAGGTGATCTGGTACCA
361 TTACACAATGCCTGTTCTTATGGTCATTATGAAGTAACGAACTTTTGGTCAAGCATGGT
421 GCCTGTGTAAATGCAATGGACTTGTGGCAATTCACCTCTTCATGAGGCAGCTTCTAAG
481 AACAGGGTTGAAGTATGTTCTCTTCTCTTAAGTTATGGTGCAGACCCAACTGCCTCAAT
541 TGTCACAATAAAAGTGCTATAGACTTGGCTCCACACCACAGTTAAAAGAAAGATTAGCA
601 TATGAATTTAAAGGCCACTCGTTGCTGCAAGCTGCACGAGAAGCTGATGTTACTCGAATC
661 AAAAAACATCTCTCTGGAATGGTGAATTTCAAGCATCCTCAAACACATGAAACAGCA
721 TTGCATTGTGCTGCTGCATCTCCATATCCCAAAGAAAGCAAATATGTGAAGTGTGCTA
781 AGAAAAGGAGCAAACATCAATGAAAAGACTAAAGAATCTTGACTCCTCTGCACGTGGCA
841 TCTGAGAAAGCTCATAATGATGTTGTTGAAGTAGTGGTGAACATGAAGCAAAGGTTAAT
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1021 ACTGCTTTACAGATGGGAAATGAAAATGTACAGCAACTCCTCCAAGAGGGTATCTCATT
1081 GGTAATTCAGAGGCAGACAGACAATTGCTGGAAGCTGCAAAGGCTGGAGATGTCGAAACT
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1681 GGTATAATAATTTAGAAAGTTGCAGAGTATTTGTTACAACACGGAGCTGATGTGAATGCC
1741 CAAGACAAAGGAGGACTTATTCCTTTACATAATGCAGCATCTTACGGGCATGTAGATGTA
1801 GCAGCTCTACTAATAAAGTATAATGCATGTGTCAATGCCACGGACAAATGGGCTTTTACA
1861 CCTTTGCACGAAGCAGCCCAAAAGGGACGAACACAGCTTTGTGCTTTGTTGCTAGCCCAT
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1981 GATGATGTCAGCGCTCTTCTGACAGCAGCCATGCCCCATCTGCTCTGCCCTCTTGTAC
2041 AAGCCTCAAGTGCTCAATGGTGTGAGAAGCCAGGAGCCACTGCAGATGCTCTCTCTTCA
2101 GGTCCATCTAGCCCATCAAGCCTTTCTGCAGCCAGCAGTCTTGACAACCTATCTGGGAGT
2161 TTTTCAGAACTGCTTTCATTAGTTAGTTCAAGTGAACAGAGGGTGCTTCCAGTTTGGAG
2221 AAAAAGGAGGTTCCAGGAGTAGATTTTAGCATAACTCAATTCGTAAGGAATCTTGGACTT
2281 GAGCACCTAATGGATATATTTGAGAGAGAACAGATCACTTTGGATGTATTAGTTGAGATG
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CAGGCTTATCCTGAGTATTTAATTACTTACCAGATTATGAGGCCTGAAGGTATGGTGC
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1 GGCACGAGCTGCAACGAAATGGAAAGATTGATGTTTTGCATTGTGTTTACAGCATGGA
61 GCTGAGCCAACCR10ATCCTAAATACAGATGGAAGGACAGCATTGGR9ATTTAGCAGATCCATCT
121 GCCAAAGCAGTGRCCTTACTGGTGAATATAAGAAAGATGAACCTTTAGAAAGTGCCAGGAGT

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 481 AACAGGGTTGAAGTATGTTCTCTTCTTAAAGTTATGGTGCAGACCCAACACTGCTCAAT
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 601 TATGAATTTAAAGGCCACTCGTTGCTGCAAGCTGCACGAGAAGCTGATGTTACTCGAATC
 661 AAAAAACATCTCTCTCTGGAAATGGTGAATTTCAAGCATCCTCAAACACATGAAACAGCA
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 1021 ACTGCTTTACAGATGGGAAATGAAAATGTACAGCAACTCCTCCAAGAGGGTATCTCATTA
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 1741 CAAGACAAAGGAGGACTTATTCCTTTACATAATGCAGCATCTTACGGGCATGTAGATGTA
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 1981 GATGATGTCAGCGCTCTTCTGACAGCAGCCATGCCCCATCTGCTCTGCCCTCTTGTTAC
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 2221 AAAAAGGAGGTTCCAGGAGTAGATTTTAGCATAACTCAATTCGTAAGGAATCTTGGACTT
 2281 GAGCACCTAATGGATATATTTGAGAGAGAACAGATCACTTTGGATGTATTAGTTGAGATG
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 2521 GTGGAGGAAGAGATGCAAAGTACAGTTCGAGAGCACAGAGAF7TGGAGGTCATGCAGGTGGA
 2581 ATCTTCAACAGATACAATATTCTCAAGATTGAGAAGGTTTGTAAACA
 Plus
 3'end

GTCTCCTGATGATAAAGAGTTTTCAGTCTGTGGAGGAAGAGATGCAAAGT
 ACAGTTCGAGAGCACAGAGATGGAGGTCATGCAGGTGGAATCTTC
 AACAGATACAATATTCTCAAGATTGAGAAGGTTTGTAAACAAGAACTATGGGA
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 ACAGATCTTGTACATTTGCCACAGGCAGCTGCTCTTTTGGCCGGGTAACTTGGGAAAG
 TCTTTCTGTCAGTTCAGTGCAATGAAAATGGCACATTCTCCTCCAGGTCATCACTCAGTC
 ACTGGTAGGCCAGTGTAATGGCCTAGCATTAGCTGAATATGTTATTTACAGAGGAGAA
 CAGGCTTATCCTGAGTATTTAATTACTTACCAGATTATGAGGCCTGAAGGTATGGTCTG
 ATGGATAAATAGTTATTTTAAAGAACTAATTCCTGAACCTAAAATCATCAAAGCAGC
 AGTGGCCTCTACGTTTTACTCCTTTGCTGAAAAA

gi|3929219 (AF082556) TRF1-interacting ankyrin-related ADP-ribose polymerase
[Homo sapiens] Length = 1327
Score = 464 bits (1181), Expect = e-130
Identities = 223/309 (72%), Positives = 249/309 (80%) Frame = +2

Query: 2 LEMVNFKHPQTHETALHCAAASPYPKRKQICELLRLKGANINEKTKEFLTPLHVASXXXX 181
LE++NFK PQ+HETALHCA AS +PKRKQ+ ELLRLKGAN+NEK K+F+TPLHVA+

Sbjct: 511 LEIINFKQPQSHETALHCAVASLHPK RKQVTELLRLKGANVNEKNKDFMTPLHVAAERAH 570

Query: 182 XXXXXXXXXXXXXXXXLDNLGQTS LHRAAYCGHLQTCRLLLSYGCDPNIIISLQGFTALQM 361
LD LGQT+LHRAA GHLQTCRLLLSYG DP+IISLQGFTA QM

Sbjct: 571 NDVMEVLHKHGAKMNALDTLGQTALHRAALAGHLQTCRLLLSYGSDPSIIISLQGFTAAQM 630

Query: 362 GNENVQQLLQEGISLGNSEADRQLLEAAKAGDVETVKKLCTVQSVNCRDIEGRQSTPLHF 541
GNE VQQ+L E + S+ D +LLEA+KAGD+ETVK+LC+ Q+VNCRD+EGR STPLHF

Sbjct: 631 GNEAVQQLLSESTPIRTSDVDYRLLEASKAGDLETVKQLCSSQNVNCRDLEGRHSTPLHF 690

Query: 542 AAGYNRVSVVEYLLQH GADVHAKDKGGLVPLHNACSYGHYEVAELLVKHGAVNVNADLWK 721
AAGYNRVSVVEYLL HGADVHAKDKGGLVPLHNACSYGHYEVAELLV+HGA VNVADLWK

Sbjct: 691 AAGYNRVSVVEYLLHHGADVHAKDKGGLVPLHNACSYGHYEVAELLVRHGASVNVNADLWK 750

Query: 722 FTPLHEAAAKGKYEICKLLLQH GADPTKKNRDGNTPDLVKGDTXIQXXXXXXXXXXXXX 901
FTPLHEAAAKGKYEICKLLL+HGADPTKKNRDGNTPDLVKG+GDT IQ

Sbjct: 751 FTPLHEAAAKGKYEICKLLLKH GADPTKKNRDGNTPDLVKGEDTDIQDLLKGDAALLDA 810

Query: 902 XXKGCFXQI 928
KGC ++

Sbjct: 811 AKKGCLARV 819

Longest ORF frame 2 of 310 amino acids
From amino acid position 1 to 311

1 LEMVNFKHPQTHETALHCAAASPYPKRKQICELLRLKGANINEKTKEFLTPLHVASEKAH
61 NDVVEVVVKHEAKVNALDNLGQTS LHRAAYCGHLQTCRLLLSYGCDPNIIISLQGFTALQM
121 GNENVQQLLQEGISLGNSEADRQLLEAAKAGDVETVKKLCTVQSVNCRDIEGRQSTPLHF
181 AAGYNRVSVVEYLLQH GADVHAKDKGGLVPLHNACSYGHYEVAELLVKHGAVNVNADLWK
241 FTPLHEAAAKGKYEICKLLLQH GADPTKKNRDGNTPDLVKGDTXIQDLLRGDAXXLDA
301 AXKGCFXQIX

1 GCTGGAAATGGTGAATTTCAAGCATCCTCAAAR7CACATGAAACAGCATTGCATTGTGCTGC
61 TGCATCTCCATATCCCAAAAGAAAGCAAAR6TATGTGAACGTGTGCTAAGAAAAGGAGCAAA
121 R5CATCAATGAAAAGACTAAAGAAATTCCTTGACTCCTCTGCACGTGGCATCTGAGAAAGCTCA
181 TAATGATGTTGTTGAAGTAGTGGTGAACATGAAGCAAAGGTTAATGCTCTGGATAATCT
241 TGCTCAGACTTCTCTACACAGAGCTGCATATTGTGGTCATCTACAAACCTGCCGCCCTACT
301 CCTGAGCTATGGGTGTGATCCTAACATTATATCCCTTCAGGGCTTTACTGCTTTACAGAT
361 GGGAAATGAAAATGTACAGCAACTCCTCCAAGAGGGTATCTCATTAGGTAATTCAGAGGC
421 AGACAGACAATTGCTGGAAAGCTGCAAAGGCTGGAGATGTGCAAACTGTAAAAAACTGTG
481 TACTGTTTACAGAGTGTCAACTGCAGAGACATTGAAGGGCGTCAGTCTACACCACTTCATTT
541 TGCAGCTGGGTATAACAGAGTGTCCGTGGTGAATATCTGCTACAGCATGGAGCTGATGT
601 GCATGCTAAAGATAAAGGAGGCCTTGTACCTTTGCACAATGCATGTTCTTATGGACATTA
661 TGAAGTTGCAGAACTTCTTGTAAACATGGAGCAGTAGTTAATGTAGCTGATTTATGGAA
721 ATTTACACCTTTACATGAAGCAGCAGCAAAAGGAAAATATGAAATTTGCAAACTTCTGCT
781 CCAGCATGGTGCAGACCCTACCAAAAAAACAGGGATGGAAATACTCCTTTGGATCTTGT
841 TAAAGATGGAGATACANATATTCAGATCTGCTTAGGGGAGATGCANNTTTNCTAGATGC
901 TGCCNANAAGGGTTGTTTTANCCAGATTNAA

>EST assembled
Good protein homology to

gi|3929221 (AF082557) TRF1-interacting ankyrin-related
ADP-ribose polymerase [Homo sapiens]
TITLE Tankyrase, a poly(ADP-ribose) polymerase at human telomeres
JOURNAL Science 282, 1484-1487 (1998)

Longest ORF frame 3 of 258 amino acids

HVASEKAHNDVVEVVVKHEAKVNALDNLGQTSLHRAAXCGHLQTCRLLLSYGCDPNIISL
QGFTALQMGNENNVQQLLEGISLGNSEADRQLLEAAKAGDVETVKKLCTVQSVNCRDIEG
RQSTPLHFAAGYNRVSVVEYLLQHGADVHAKDKGGLVPLHNACSYGHYEVAELLVKHGAV
VNVADLWKFTPLHEAAAKGKYEICKLLLQHGADPTKKNRDGNTPLDLVKDGDXTXIQDLLR
GDAXXLDAAXKGCFXQIX

TGCACGTGGCATCTGAGAAAGCTCATAATGATGTTGTTGAAGTAGTGGTGAAACATGAAG
R2CAAAGGTTAATGCTCTGGATAATCTTGGTCAGACTTCTCTACACAGAGCTGCATNTTGTG
GNCATCTACAAACCR1TGCCGCCTACTCCTGAGCTATGGGTGTGATCCTAACATTATATCCC
TTCAGGGCTTTACTGCTTTACAGATGF4GGAAATGAAAATGTACAGCAACTCCTCCAAGAGG
GTATCTCATTAGGTAATTCAGAGGCAGACAGAR4CAATTGCTGGAAGCTGCAAAGGCTGGAG
ATGTCGAAACTGTAAAAAACTGTGTACTGTTR3CAGAGTGTCAACTGCAGAGACATTGAAG
GGCGTCAGTCTACACCACTTCATTTTGCAGCTGGGTATAACAGAGTGTCCGTGGTGGAAT
ATCTGCTACAGCATGGAGCTGATGTGCATGCTAAAGATAAAGGAGGCCTTGTACCTTTGC
ACAATGCATGTTCTTATGGACATTATGAAGTTGCAGAACTTCTTGTAAACATGGAGCAGF3
TAGTTAATGTAGCTGATTTATGGAAATTTACACCTTTACATGAAGCAGCAGCAAAAGGAA
AATATGAAATTTGCAAACCTTCTGCTCCAGCATGGTGF1CAGACCCTACCAAAAAAACAGGG
ATGGAAATACTCCTTTGGATCTTGTAAAF2AGATGGAGATACANATATTCAAGATCTGCTTA
GGGGAGATGCANNTTTNCTAGATGCTGCCNANAAGGGTTGTTTTANCCAGATTNAA

TGCACGTGGCATCTGAGAAAGCTCATAATGATGTTGTTGAAGTAGTGGTGAAACATGAAG
CAAAGGTTAATGCTCTGGATAATCTTGGTCAGACTTCTCTACACAGAGCTGCATNTTGTG
GNCATCTACAAACCTGCCGCCTACTCCTGAGCTATGGGTGTGATCCTAACATTATATCCC
TTCAGGGCTTTACTGCTTTACAGATGGGAAATGAAAATGTACAGCAACTCCTCCAAGAGG
GTATCTCATTAGGTAATTCAGAGGCAGACAGACAATTGCTGGAAGCTGCAAAGGCTGGAG
ATGTCGAAACTGTAAAAAACTGTGTACTGTTCAGAGTGTCAACTGCAGAGACATTGAAG
GGCGTCAGTCTACACCACTTCATTTTGCAGCTGGGTATAACAGAGTGTCCGTGGTGGAAT
ATCTGCTACAGCATGGAGCTGATGTGCATGCTAAAGATAAAGGAGGCCTTGTACCTTTGC
ACAATGCATGTTCTTATGGACATTATGAAGTTGCAGAACTTCTTGTAAACATGGAGCAG
TAGTTAATGTAGCTGATTTATGGAAATTTACACCTTTACATGAAGCAGCAGCAAAAGGAA
AATATGAAATTTGCAAACCTTCTGCTCCAGCATGGTGCAGACCCTACCAAAAAAACAGGG
ATGGAAATACTCCTTTGGATCTTGTAAAGATGGAGATACANATATTCAAGATCTGCTTA
GGGGAGATGCANNTTTNCTAGATGCTGCCNANAAGGGTTGTTTTANCCAGATTNAA

>cip6c1p5F2

TCATTATCTGCTTAGGGGAGATGCAGCTTT
GCTAGATGCTGCCAAGAAGGGTTGTTTAGCCAGAGCGAAGAAGTTGTCTTCTCCTGATAA
TGTAATTTGCCGCGATACCCAAGGCAGACATTCAACACCTTTACATTTAGCAGCTGGTTA
TAATAATTTAGAAGTTGCAGAGTATTTGTTACAACACGGAGCTGATGTGAATGCCCAAGA
CAAAGGAGGACTTATTCCTTTACATAATGCAGCATCTTACGGGCATGTAGATGTAGCAGC
TCTACTAATAAAGTATAATGCATGTGTCAATGCCACGGACAAATGGGCTTTTACACCTTT
GCACGAAGCAGCCCCAAAAGGGACGAACACAGCTTTGTGCTTTGTTGCTAGCCCATGGAGC
TGACCCGACTCTTAAAAATCAGGAAGGACAAACACCTTTAGATTTAGTTTCAAGCGGATGA
TGTCAGCGCTCTTCTGACAGTAGCCATGCCCCATCTGCTCTGCCCTCTTGTACAAGC
CTCAAGTGCTCAATGGGTGTGAGAAGCCAGGAGCCACTGCAGATGCTCTCTCTTCAGGT
CCATCTAGCCCATCAAGCCTTTCTGCANCCAGCAGTCTTGACAACCTTATTCTGGGAGTTT

>cip6c2p5-F3

GGATGGAAATACTCCTTTGGATCTTGTAAAGATG
GAGATACAGATATTCAAGATCTGCTTAGGGGAGATGCAGCTTTGCTAGATGCTGCCAAGA
AGGGTTGTTTAGCCAGAGTGAAGAAGTTGTCTTCTCCTGATAATGTAAATTGCCGCGATA
CCCAAGGCAGACATTCAACACCTTTACATTTAGCAGCTGGTTATAATAATTTAGAAGTTG
CAGAGTATTTGTTACAACACGGAGCTGATGTGAATGCCCAAGACAAAGGAGGACTTATTC
CTTTACATAATGCAGCATCTTACGGGCATGTAGATGTAGCAGCTCTACTAATAAAGTATA

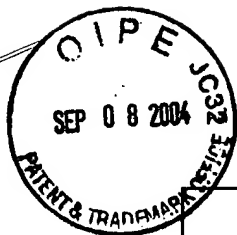


Exhibit B
09/843,159

6/15/1999

w/ Tank northern blot
↳ This slide is for Cassen

Chk1 two-hybrid screening

Bait: Chk1

is a protein kinase required for cell cycle arrest in response to DNA damage

Hit: a novel protein homology to ATP-dependent RNA helicase
belongs to the DEAD-box RNA helicase family

The fission yeast *cdc28(+)* encodes a member of the DEAD-box family of putative RNA helicases involved in pre-mRNA splicing and cell cycle progression

a new gene encoding a putative DEAD box helicase have been isolated to suppress uncontrolled mitosis by overexpression *cdc25* in fission yeast
(Chk1 and 14-3-3 proteins also show up in this screening)

It is interesting to characterize the interaction of Chk1 and the novel RNA helicase and its role in cell cycle control

Potential targets for further pursuing

p21 hit:	Tankyrase homolog
Traf4 hit:	Cdk liked kinase
hRad9 hit:	PP5
PNCA hits:	a novel helicase
	a human homolog of SNM1
	a novel endo/exo-ribonuclease
Chk1 hit:	an ATP-dependent RNA helicase homolog

Target validation:

- full length cloning
- examine the RNA expression in tumor verse normal tissues
- peptide binding library screening in YTH----->functional assay
- generate dominant-negative mutant

p21 hit: a Tankyrase homolog

Tankyrase (a poly(ADP-ribose) polymerase at human telomeres)

- a protein with homology to ankyrin and to the catalytic domain of ADP-ribose polymerase (PARP)
- is localized to human telomeres
- binds to the telomeric protein TRF1 (telomeric repeat binding factor-1)
- is a positive regulator of telomere length maintenance

SEP 08 2004

Project No. _____

Book No. _____

Exhibit #C 09/843,169

TITLE Smart HB for #2 (CZPS)

124

From Page 10

GRADMARK SEE p81.

7/9/99

SS Syn

polymer HB (100%)
Smart 0.5% II (9040425)
primer
H₂O

HB (AT)

0.5% (100%)

HB (R14)

0.5% (100%)

1.1
1.1
2.5

#2 (R14)

1.1
1.1
2.5

70°C 3' ice

5.1

2.5

5x 1°
0.1M DTT
dNTP mix
RT

2
1
1
1
10.1

70°C 15 min

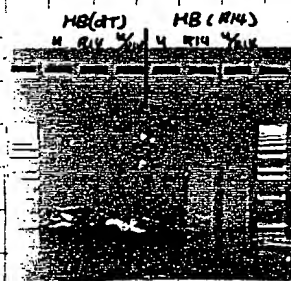
+ 50% Tricine-SDTA buffer, 70°C 7' ice.
(100% 100%)

#2 (CZPS)
upm Nup R11 R12

PCR

upm R14 upm R14
HB (AT) 3.1
HB (R14) 3.1

Cap 30



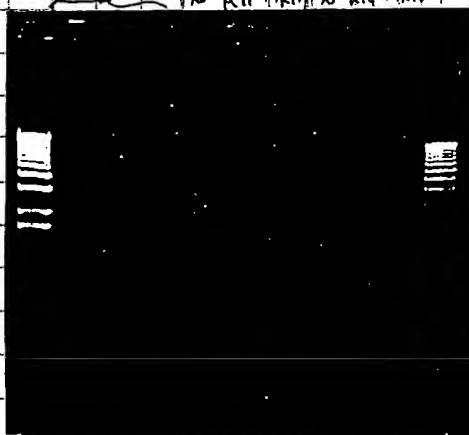
7/12/01

PCR (2P)

primers: Nup R11 N/R11

HB(AT) 1P (1/10) 0.5x
HB(R14) 1P (1/10) 10.1

Cap 23



#2 Cap 1 (R11) 10.1
#2 Cap 2 10.1

7/12/01
T. A. L. 10.1

To Page No. _____

Witnessed & Understood by me,

JH

Date

8/2/99

Invented by

SG

Recorded by

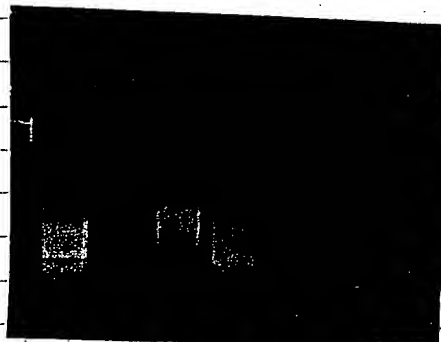
SG

Date

7/9/99

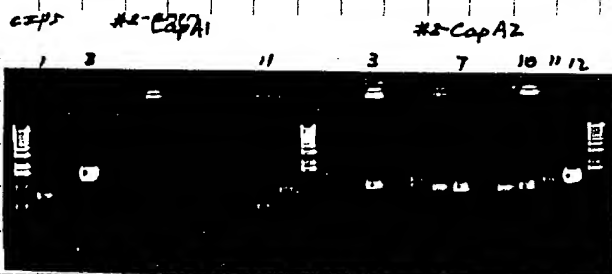
From Page No. _____

Repeat 10 but use NdePvuII
 PCR primer: NdePvuII 1/11
 template: 1/10 (AT) 1/11
 1/10 (AT) 1/11
 Cap30. 2/10
 X

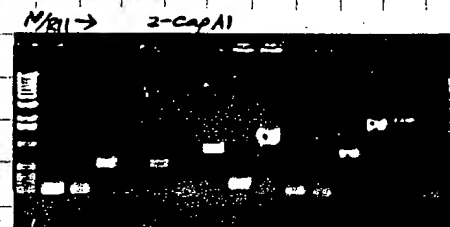


7/13 (2) #2-CapA1 & #2-CapA2

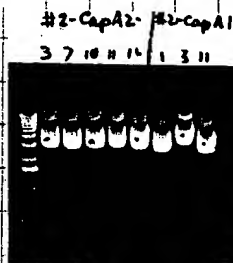
✓ PCR insert screening primer: NdePvuII



7/19 (2) screening more



7/14 (3) mini plasmid prep:



#2-CapA2-3 (NdePvuII)

-10
-12

#2-CapA1-3

-11

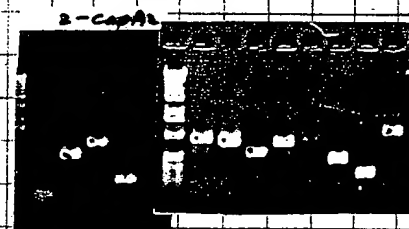
300 ng each

Result
no sequence7/12 (3)
to sequence

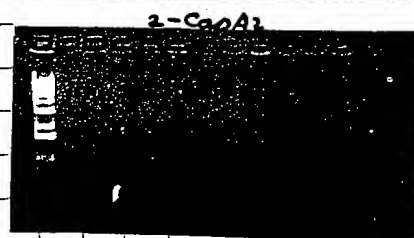
isoform 1

isoform 3

7/12

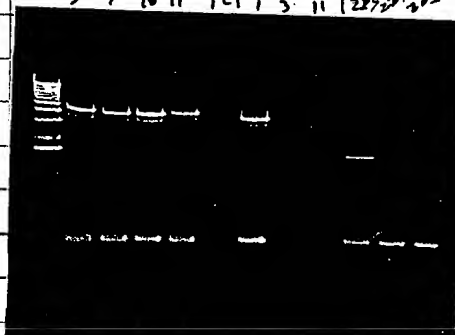


F13/R11 check



#2, per check F13/R11!

#2-CapA2-3 3 7 10 11 1 3 11 #2-CapA1-3 1 3 11 #2-CapA2-3 23, 24, 25



7/12

To Page No. 137

Witnessed & Understood by me,

JH

Date

8/27/99

Invented by

RS

Recorded by

RS

Date

7/13/99

From Page No. 115

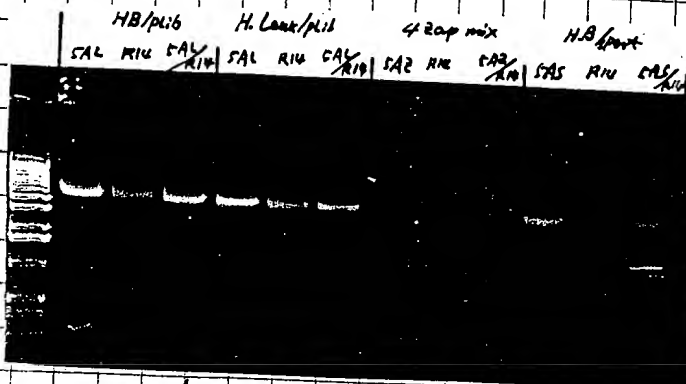
7/1/99 ① 5'-end cloning.

from library

Templates:

- | | | |
|---|--------------|---------|
| ① | HB/plib | primer |
| ② | H. Leuk/plib | SAC/R14 |
| ③ | 4zap mix | SAB/R14 |
| ④ | HB/psport | SAS/R14 |

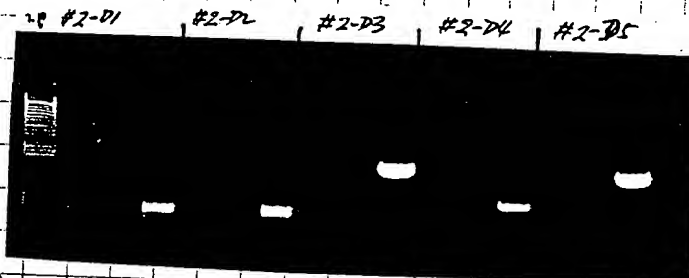
Gap30 (2'10")



7/13/99 ②

2P
SAB/R11 SAB/R11
#2-D1
3
4
5
Cap23

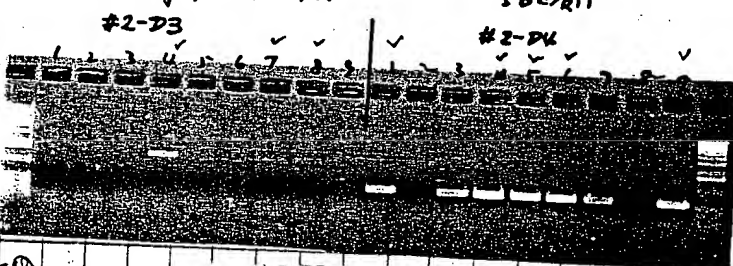
GP GP GP GP
#2-D1 (SAC/R14) #2-D2 (SAC/R14) #2-D3 (SAB/R14) #2-D4 (SAS/R14)
#2-D2 " " " "
insert screening 2-D3, 2-D4 only
T/A cloning & 2P



7/14

PCR insert screening, primer SAB(2)/R11

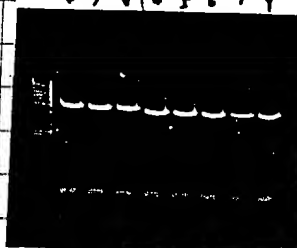
PCR insert screening, primer SAB(2)/R11



GP GP GP GP GP
#2-E1 (SAB/R14) #2-E2 (SAB/R14) #2-E3 (SAB/R14) #2-E4 (SAB/R14) #2-E5 (SAB/R14)
X X X X X

To sequence 7/14 ②

check insert with F13/R11 (1')

2-D3- 2-D4-
4 7 8 6 5 6 1 9

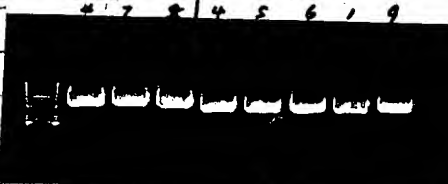
7/16 ③

mini prep

Eph on gel

Calk

Core = 300 1/2



Witnessed & Understood by me,

JH

Date

8/2/99

Invented by

Sy

Recorded by

Sy

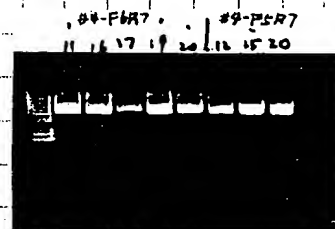
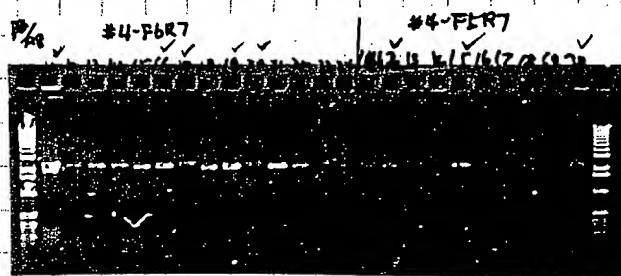
Date

7/13/99

To Page No. _____

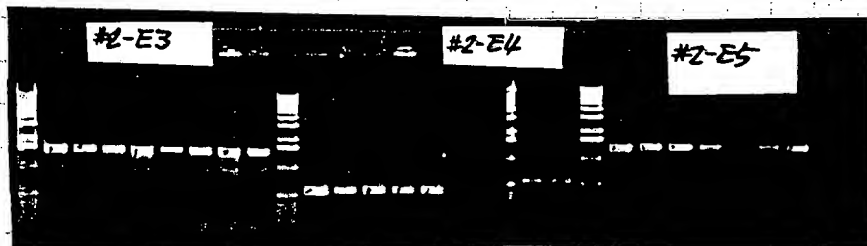
From Page No. 121

7/12/99① PCR insert screening again. Last time the amount clones are not enough →
primer use F5/R8



#4-F6R7-11 } 7/13
-19 } to sequence
-20 }
#4-F5R7-15 }

7/15④ Clones PCR insert screening



7/16⑤ 7/13/RU Insert Check result: all of them have band.

To Page No. _____

Witnessed & Understood by me,

JH

Date

8/24/99

Invented by

S1

Recorded by

S2

Date

7/13/99

From Page No. 127

7/1/99 (2) Compare pH of PCR Buffer -

API R14 API R14

Template + H₂O (Marathon) 300 ng 1 in 25 PCR

+ 0.5 M HCl + 0.2 M HCl

+ 1.5 " + 0.5 "

+ 2.5 " + 0.8 "

Copro

nouseful

HCl

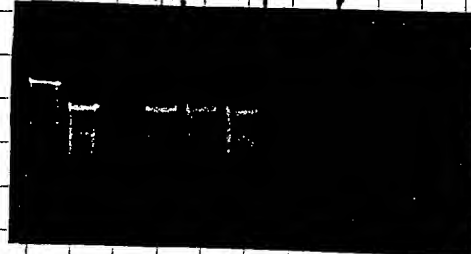
0

0.2

0.5

0.8

API R14 API R14 API R14 API R14



X

Try New buffer & API.

API R14 API R14

API R14 API R14 API R14 New Buff. Primer 3



X

To Page No. _____

Witnessed & Understood by me,

JH

Date

8/2/99

Invented by

GJ

Recorded by

GJ

Date

7/15/99

7/16/99 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

1. T+B X 6/25, p111 } Bsch kit X } #2-B4-1 (449) ✓
H. Lank/pl ✓ (R14, R11) } clontech kit ✓ } -3
-4

2. HB(R) ✓ 6/30, p115-7 } #2-C1-6 (1kb)
T+B ✓ R14 } (HB) -7
-12
-18
H. Mala X } #2-C2-1 (1kb) ✓
(HB) -5
#2-C3-11 (1.6kb)
(HB) -12
-18
H. Liver/pl ✓

3. HB/pl ✓ 7/12, p126-7 X HB too small 9/4/99 mini & clones
H. Lank/pl ✓ R14 1.5 kb → but didn't pass F83/p11 check X
4 Zap mix ✓ a.k.a. → no to sequencing
H.B/ps ✓ X too more clones plate give per ap. to F83
#2-D3 (H. Lank)
#2-D4 (4 Zap mix)
#2-D5 (HB/pl)

2. HB(R)

1. myself X 7/12, p123, 128 } Normal Prof
HB R14 } different PH but
C. Newtupier

X primer & adaptor problem

2. clontech Marathon Ready cDNA, 7/6, p119
H. Fetal Brain X
H. Fetal Liver X
H. Leukocyte X

3. HB(R) primer T ✓
HB, " R14 X

#2-CapA1-3 (1.5kb) ✓ isoform 1
-11 (0.5kb) ✓ isoform 3
#2-CapA2-3 (1kb)
-10
-12 (1.2kb) ✓ no seq

(Mass F83/R11 check)

#2-CapA1-29 (1kb) ✓
-33 (1.2kb) ✓
-34 (2.2kb) ✓
#2-CapA2-26 (0.9kb) ✓
-29 (0.9kb) ✓

Result: got 2 isoform from SMART RACE. * got isoform from Library method.
But Marathon did work.
7/22 finish it.

TITLE

CZPS. #2

Project No. _____

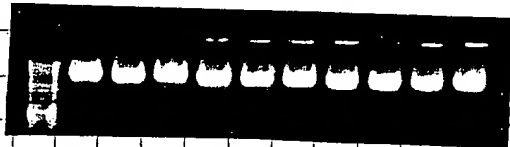
Book No. _____

137

From Page No. ¹²⁵

← min prep. 2 each

~ conc = 200 ng/μl



→ F13/R11 insert check again

2-CapA1-29

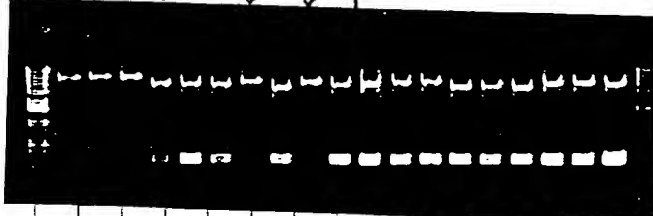
33 } to sequence 7/20 (2)

34

2-CapA2-26

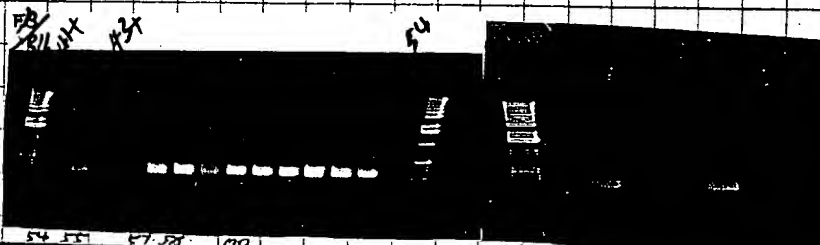
29

F13/R11
CZPS
2-CapA1-29
-33
-34
2-CapA2-26
-33
-34
-35
-36
-37
-38
-39
-40
2-B3-1
-2
-4
2-B4-1
-3
-4
2-B5-1
-2
-3



7/21 (3) Pick 20 clones from #2-CapA1

PCR insert screening. Nup/R11 & F13/R11



N/R11 per

41 43



Recombination per assay

#2-CapA1-50

(N/R11)

#2-CapA1-60

mini

(Seq 1/25)

CZPS
#2-CapA1-60 to sequence (7/21)

To Page No. _____

Witnessed & Understood by me,

JH

Date

8/17/99

Invented by

SY

Recorded by

SY

Date

7/21/99



FLEHR, HOBACH, TEST
ALBRITTON & HERBERT

1999 JUL 22 AM 9.02

RECEIVED

July 20, 1999

RIGEL, INC.

VIA FEDERAL EXPRESS

Ms. Robin Silva
Flehr, Hobach, Test, Albritton, & Herbert
4 Embarcadero Center, Suite 3400
San Francisco, California 94111-4187

*Per RMS - OPEN
AS USABILITY*

Re: Provisional Patent Applications.

Dear Ms. Silva,

Per Brian Cunningham's request, enclosed with this letter are eight packages of information generated by Dr. Ying Luo in preparation for provisional patent application filings. Each package pertains to a different genetic sequence that Rigel believes may be commercially useful. Each package contains relevant scientific materials, journal references and abstracts of proposed gene functions.

Please file a provisional patent application for each document.

If you have any questions, please call me at 650-624-1106.

Respectfully yours,

Nicole A. Verona
Rigel Pharmaceuticals, Inc.

Exhibit DE 09/843,141

FLEHR, HOBACH, TEST
ALBRITTON & HERBERT

1999 JUL 23 AM 10:04

RECEIVED

July 22, 1999

RIGEL

RIGEL, INC.

VIA FEDERAL EXPRESS

Ms. Robin Silva
Flehr, Hobach, Test, Albritton, & Herbert
4 Embarcadero Center, Suite 3400
San Francisco, California 94111-4187

ORIGINAL Diskette in
P-68287

Re: Provisional Patent Applications.

Dear Ms. Silva,

It was a pleasure to meet you today. I'm sorry that I did not see you leave; I had intended to give you these diskettes before the end of our meeting.

On these diskettes are the documents that we reviewed earlier. The new document that Ying gave to me today will be ready on Monday.

If you have any questions, please call me at 650-624-1106.

Respectfully yours,

Nicole Verona

Nicole A. Verona
Rigel Pharmaceuticals, Inc.

Exhibit B F 09/843,149

DOCKETING/BILLING SYSTEM FILE INFORMATION
(Patent/Design Patent)

Date: July 26, 1999 File No.: A-68292
Client: Rigel Pharmaceuticals Access Code: 4931
Client Attorney: DJB/RMS/DAV
Ref. No.:

New ☒ Update ☐ Close ☐
Parent ☐ Div. ☐ CPA ☐ CIP ☐

Subject Description

Title: TANKYRASEH, A Cell Cycle Protein

Inventors: Ying Luo

Serial No.:
Filing Date:

Patent No.:
Issue Date:

Assignee:

Related Files:

If Foreign file, please provide corresponding U.S. Serial Number
or Patent Registration Number.

Misc. (Include any action items and due dates here!):

Submitted by: Gail Clark Date: July 26, 1999

cc: Accounting
Docketing - Foreign
Docketing - US

2x hint AG 09/843, 149

From: Nicole Verona <NVerona@rigel.com>
To: "'dvance@flehr-iplaw.com'" <dvance@sfpo.fhtah.fleh...
Date: 8/30/99 4:01pm
Subject: FW: FW: info

Dear Dolly,

I forwarded your questions to Ying Luo and this is the response I received from him. I hope this helps. Also, I've got copies of the TNIK manuscript figures that you need. Would you like me to fax them to you?

Nicole

-----Original Message-----

From: Ying Luo [mailto:yluo@rigel.com]
Sent: Sunday, August 29, 1999 2:44 PM
To: Nicole Verona
Subject: Re: FW: info

PAN is from PCNA screening. tankyraseH is from CIP screening. CIP is also called p21. R0101 has an entry in GenBank with full length sequence with a name called KIAA0101. No functional annotation about R0101. PP5 was cloned and published before. The novelty is we can link PP5 to RAD9, a cell cycle checkpoint control protein. You should have all figures of TNIK manuscript already. TNIK nucleotide sequences are attached. PAN nucleotide sequence is already in Genbank.

Ying

At 03:21 PM 8/26/99 -0700, you wrote:

>Hi Ying!

>

>Here are some of the questions I need to discuss with you.

>

>Nicole

>

>-----Original Message-----

>From: Dolly Vance [mailto:dvance@flehr-iplaw.com]
>Sent: Friday, August 20, 1999 1:42 PM
>To: nverona@rigel.com
>Subject: info

>

>

>Dear Nicole,

>Hope you're well. Here's a complete list of what I am missing from the
>initial 9 disclosures.

>

>1) The names of binding partners (if any actual) for CAH and
>tankyraseH.

>2) The nucleic acid and amino acid sequences for PAN and TNIK
>(actually, all figures that go with the manuscript for TNIK).

>3) Please confirm that R0101 and PP5 are NOT novel, and that all
>others are novel.

>

>Thanks. Dolly

>P.S. I understand your hours are reduced. Any chance you can give me a

>time frame for providing the above information? Thanks again, Dolly

>

RIGEL

FLEHR, HOHBACH, TEST,
ALBRITTON & HERBERT

1999 OCT -1 AM 10:09

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Exhibit H 09/843 149

RIGEL, INC.

September 30, 1999

Ms. Dolly Vance
Flehr, Hohbach, Test, Albritton and Herbert LLP
4 Embarcadero Center, Suite 3400
San Francisco, California 94111-4187

Dear Dolly,

Enclosed are documents pertaining to the cell-cycle patent applications that you requested.

The documents include:

1. TankyraseH abstracts involving TRF, P21, and PARP
2. TankyraseH nucleotide sequence alignment report
3. TankyraseH amino acid sequence alignment report
4. R0101 figures with corrected CDK 2, 3, and 4 labels
5. Mkinase nucleotide and amino acid sequences with its kinase domain and nuclear localization sequence (NLS) highlighted

Additional information will be sent to you next week.

Please call or email me if you have any questions.

Sincerely,

Nicole Verona

Nicole Verona

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